

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of transmitting a synchronized channel in a radio transmitter, ~~where in which~~ normal radio bursts are transmitted ~~(606)~~ on a normal channel asynchronously, ~~characterized by the method comprising:~~

~~(702)~~ obtaining synchronized timing;

~~(708)~~ forming synchronized radio bursts ~~(SB)~~, ~~the a~~ length of ~~which~~ each of the synchronized radio bursts is at most half of ~~the a~~ length of a normal radio burst; and

~~(710)~~ transmitting a synchronized radio burst in the place of a the normal radio burst such that ~~the~~ transmission of the synchronized radio burst is synchronized with the obtained synchronized timing.

2. (Currently Amended) A The method according to claim 1, ~~characterized by further comprising~~ forming at least two successive synchronous radio bursts ~~(SB)~~, wherein at least one of the at least two successive synchronous radio bursts ~~which~~ is transmitted.

3. (Currently Amended) A The method according to claim 1, ~~characterized by further comprising~~ placing at least one synchronized radio burst ~~(SB)~~ in a burst having ~~the a~~ length of a normal radio burst.

4. (Currently Amended) A The method according to claim 3, ~~characterized in that wherein the a~~ part of the burst that does not belong to the synchronized radio burst ~~(SB)~~ consists of predetermined padding bits ~~(PAD)~~.

5. (Currently Amended) A The method according to claim 1, ~~characterized in that wherein~~ the synchronized radio burst ~~(SB)~~ comprises a predetermined bit pattern ~~(TS)~~.

6. (Currently Amended) A The method according to claim 5, ~~characterized in that wherein~~ the predetermined bit pattern is a training sequence.

7. (Currently Amended) A The method according to claim 1, ~~characterized in that wherein~~ the synchronized radio burst ~~(SB)~~ comprises information, ~~such as including at least~~



one of the location coordinates (~~COORD~~) of the synchronized radio burst transmitted ~~and/or~~ and the an offset (OFFSET), i.e. ~~the time difference between the transmission moments of the~~ ideal synchronized radio burst and the actual synchronous radio burst.

8. (Currently Amended) A The method according to claim 1, ~~characterized by further~~ comprising placing the synchronized radio burst in a time slot.

9. (Currently Amended) A The method according to claim 1, ~~characterized in that~~ wherein the synchronized channel is transmitted ~~by means of~~ via at least one normal physical channel.

10. (Currently Amended) A The method according to claim 9, ~~characterized by~~ further comprising indicating on a control channel ~~the~~ physical channels to be used for the transmission of the synchronized channel.

21  
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11. (Currently Amended) A The method according to claim 1, ~~characterized in that~~ wherein ~~the~~ physical channels in ~~the~~ a direction of reception corresponding to the synchronous channel in ~~the~~ a direction of transmission are used to transmit signalling information, ~~such as~~ including measurement results.

12. (Currently Amended) A The method according to claim 1, ~~characterized in that~~ wherein the method is used in a locating method, ~~such as the OTD (observed time difference)~~ including an observed time difference method.

13. (Currently Amended) A The method according to claim 1, ~~characterized in that~~ wherein ~~a~~ the synchronized radio burst is transmitted when the radio transmitter is in discontinuous transmission.

14. (Currently Amended) A The method according to claim 1, ~~characterized in that~~ wherein ~~the~~ transmission of synchronized radio bursts ~~only~~ employs a part of ~~the~~ a capacity of a normal channel.

15. (Currently Amended) A radio ~~transmitting~~ transmitter comprising:  
a channel codec (~~216~~) ~~for forming~~ configured to form a normal channel;  
a burst former (~~228~~) ~~for forming~~ configured to form normal radio bursts;



13  
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a multiplexer (226) ~~for assigning~~ configured to assign to each radio burst the a moment for its transmission; and  
~~characterized in that it also comprises~~  
a clock (180) ~~for obtaining~~ configured to obtain synchronized timing [[:]] ,  
wherein  
~~the channel codec (216) is arranged to form a synchronized channel;~~  
the burst former (228) is arranged to form synchronized radio bursts (SB), the a length ~~of which~~ of each of the synchronized radio bursts is at most half of ~~the a~~ length of a normal radio burst [[:]] , and  
the multiplexer (226) is arranged to insert a synchronized radio burst in ~~the~~ place of a the normal radio burst such that ~~the~~ transmission of the synchronized radio burst is synchronized with the obtained synchronized timing.

16. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the burst former (228) is arranged to form at least two successive synchronous radio bursts (SB) and the multiplexer (226) is arranged to insert at least one of ~~them~~ the at least two successive synchronous radio bursts in ~~the~~ place of a the normal radio burst.

17. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the burst former (228) is arranged to form a burst having a length equal to the length of which equals the a length of a the normal radio burst ~~and which~~ , said burst comprising ~~comprises~~ at least one synchronized radio burst (SB).

18. (Currently Amended) A The radio transmitter according to claim 17, ~~characterized in that~~ wherein the burst former (228) is ~~arranged~~ configured to place predetermined padding bits (PAD) in ~~the a~~ part of the burst that does not belong to the synchronized radio burst (SB).

19. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the burst former (228) is ~~arranged~~ configured to place a predetermined bit pattern (TS) in the synchronized radio burst (SB).

20. (Currently Amended) A The radio transmitter according to claim 19, ~~characterized in that~~ wherein the predetermined bit pattern is a training sequence.



21. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the channel codec (216) is arranged to place in the synchronized radio burst (SB) information, ~~such as including at least one of~~ the location coordinates (COORD) of the radio transmitter ~~and/or and an~~ the offset (OFFSET), i.e., the time difference between the transmission moments of the ideal synchronized radio burst and the actual synchronous radio burst.

22. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the multiplexer (226) is arranged to place the synchronized radio burst in a time slot.

23. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the channel codec (216) is arranged configured to use at least one normal physical channel for the synchronized channel.

24. (Currently Amended) A The radio transmitter according to claim 23, ~~characterized in that~~ wherein the radio transmitter is ~~arranged~~ configured to indicate on a control channel the physical channels to be used for the transmission of the synchronized channel.

25. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the radio transmitter is arranged to receive signaling data, ~~such as measurement results,~~ from the channels in the a direction of reception corresponding to the ~~synchronous~~ synchronized channels in the a direction of transmission.

26. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the clock (180) is a GPS receiver.

27. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the radio transmitter is arranged to transmit a synchronized radio burst when the transmitter is in discontinuous transmission.

28. (Currently Amended) A The radio transmitter according to claim 15, ~~characterized in that~~ wherein the radio transmitter is arranged to use only a part of the a capacity of a normal channel for the transmission of synchronized radio bursts.



29. (New) The method according to claim 7, wherein the offset is the time difference between transmission moments of an ideal synchronized radio burst and an actual synchronous radio burst.

30. (New) The radio transmitter according to claim 15, wherein the offset is the time difference between transmission moments of an ideal synchronized radio burst and an actual synchronous radio burst.

31. (New) The radio transmitter according to claim 15, wherein the channel codec is arranged to further form a synchronized channel.